We claim:

1. An isolated polynucleotide a) comprising SEQ ID NO: 2, 4, 6, 9, 19, 21, 25, 37, 39, 41, 43, 46, 48, 50, 52, 59, 61, 63, 65, 79, 81, 83, 85, 87, 89, 91, 93, 94, 95, 96, 97, 99, 108, and 110 or the complement thereof, or a polynucleotide which hybridizes to the complement of any one of SEQ ID NO: 2, 4, 6, 9, 19, 21, 25, 37, 39, 41, 43, 46, 48, 50, 52, 59, 61, 63, 65, 79, 81, 83, 85, 87, 89, 91, 93, 94, 95, 96, 97, 99, 108, and 110 under low stringency hybridization conditions and encodes a polypeptide having α-amylase, pullulanase, α–glucosidase, glucose isomerase, glucoamylase, xylanase, protease, cellulase, glucanase, beta glucosidase or phytase activity or b) encoding a polypeptide comprising SEQ ID NO: 10, 13, 14, 15, 16, 18, 20 24, 26, 27, 28, 29, 30, 33, 34, 35, 36, 38, 40, 42, 44, 45, 47, 49, 51, 62, 64, 66, 70, 80, 82, 84, 86, 88, 90, 92, 109, or 111 or an enzymatically active fragment thereof.

2. The isolated polynucleotide of claim 1, wherein said polynucleotide encodes a fusion polypeptide comprising a first polypeptide and a second peptide, wherein said first polypeptide has α-amylase, pullulanase, α–glucosidase, glucose isomerase, or glucoamylase activity.

3. The isolated polynucleotide of claim 2, wherein said second peptide comprises a signal sequence peptide.

4. The isolated polynucleotide of claim 3, wherein said signal sequence peptide targets the first polypeptide to a vacuole, endoplasmic reticulum, chloroplast, starch granule, seed or cell wall of a plant.

5. The isolated polynucleotide of claim 3, wherein said signal sequence is an N-terminal signal sequence from *waxy*, an N-terminal signal sequence from γ-zein, a starch binding domain, or a C-terminal starch binding domain.

6. The isolated polynucleotide of claim 1, wherein said polynucleotide hybridizes to the complement of any one of SEQ ID NO: 2, 9, or 52 under low stringency hybridization conditions and encodes a polypeptide having α–amylase activity.

7. The isolated polynucleotide of claim 1, wherein said polynucleotide hybridizes to the complement of any one of SEQ ID NO: 4 or 25 under low stringency hybridization conditions and encodes a polypeptide having pullulanase activity.

8. The isolated polynucleotide of claim 1, wherein said polynucleotide hybridizes to the complement of SEQ ID NO:6 and encodes a polypeptide having α– glucosidase activity.

9. The isolated polynucleotide of claim 1, wherein said polynucleotide hybridizes to the complement of any one of SEQ ID NO: 19, 21, 37, 39, 41, or 43 under low stringency hybridization conditions and encodes a polypeptide having glucose isomerase activity.

10. The isolated polynucleotide of claim 1, wherein said polynucleotide hybridizes to the complement of any one of SEQ ID NO: 46, 48, 50, or 59 under low stringency hybridization conditions and encodes a polypeptide having glucoamylase activity.

11. An isolated polynucleotide comprising any one of SEQ ID NO: 2 or 9, or a complement thereof.

12. An isolated polynucleotide comprising any one of SEQ ID NO: 4 or 25, or a complement thereof.

13. An isolated polynucleotide comprising SEQ ID NO:6 or a complement thereof.

14. An isolated polynucleotide comprising any one of SEQ ID NO: 19, 21, 37, 39, 41, or 43, or a complement thereof.

15. An isolated polynucleotide comprising any one of SEQ ID NO: 46, 48, 50, or 59, or a complement thereof.

16. An expression cassette comprising a polynucleotide a) having SEQ ID NO: 2, 4, 6, 9, 19, 21, 25, 37, 39, 41, 43, 46, 48, 50, 52, 59, 61, 63, 65, 79, 81, 83, 85, 87, 89, 91, 93, 94, 95, 96, 97, 99, 108, or 110 or the complement thereof, or a polynucleotide which hybridizes to the complement of any one of SEQ ID NO: 2,

4, 6, 9, 19, 21, 25, 37, 39, 41, 43, 46, 48, 50, 52, 59, 61, 63, 65, 79, 81, 83, 85, 87, 89, 91, 93, 94, 95, 96, 97, 99, 108, or 110 or under low stringency hybridization conditions and encodes an polypeptide having α-amylase, pullulanase, α–glucosidase, glucose isomerase, glucoamylase, xylanase, protease, cellulase, glucanase, beta glucosidase or phytase activity or b) encoding a polypeptide comprising SEQ ID NO: 10, 13, 14, 15, 16, 18, 20, 24, 26, 27, 28, 29, 30, 33, 34, 35, 36, 38, 40, 42, 44, 45, 47, 49, 51, 62, 64, 66, 70, 80, 82, 84, 86, 88, 90, 92, 109, or 111 or an enzymatically active fragment thereof.

17. The expression cassette of claim 16, which is operably linked to a promoter.

18. The expression cassette of claim 17, wherein the promoter is an inducible promoter.

19. The expression cassette of claim 17, wherein the promoter is a tissue-specific promoter.

20. The expression cassette of claim 19, wherein the promoter is an endosperm-specific promoter.

21. The expression cassette of claim 20, wherein the endosperm-specific promoter is a maize γ-zein promoter or a maize ADP-gpp promoter.

22. The expression cassette of claim 21, wherein the promoter comprises SEQ ID NO: 11 or SEQ ID NO: 12.

23. The expression cassette of claim 16, wherein the polynucleotide is oriented in sense orientation relative to the promoter.

24. The expression cassette of claim 16, wherein the polynucleotide of a) further encodes a signal sequence which is operably linked to the polypeptide encoded by the polynucleotide.

25. The expression cassette of claim 24, wherein the signal sequence targets the operably linked polypeptide to a vacuole, endoplasmic reticulum, chloroplast, starch granule, seed or cell wall of a plant.

26. The expression cassette of claim 25, wherein the signal sequence is an N-terminal signal sequence from *waxy* or an N-terminal signal sequence from γ-zein.

27. The expression cassette of claim 25, wherein the signal sequence is a starch binding domain.

28. The expression cassette of claim 16, wherein the polynucleotide of b) is operably linked to a tissue-specific promoter.

29. The expression cassette of claim 28, wherein the tissue-specific promoter is a *Zea mays* γ-zein promoter or a *Zea mays* ADP-gpp promoter.

30. An expression cassette comprising a polynucleotide comprising any one of SEQ ID NO: 2 or 9, or a complement thereof.

31. An expression cassette comprising a polynucleotide comprising SEQ ID NO:6 or a complement thereof.

32. An expression cassette comprising a polynucleotide comprising any one of SEQ ID NO: 19, 21, 37, 39, 41, or 43, or a complement thereof.

33. An expression cassette comprising a polynucleotide comprising any one of SEQ ID NO: 46, 48, 50, or 59 or a complement thereof.

34. An expression cassette comprising a polynucleotide comprising any one of SEQ ID NO: 4 or 25, or a complement thereof.

35. An expression cassette comprising a polynucleotide encoding a polypeptide having the amino acid sequence of any one of SEQ ID NO: 10, 13, 14, 15, 16, 24, 26, 27, 28, 29, 30, 33, 34, 35, 36, 38, 40, 42, 44, 45, 47, 49, 51, 61, 63, 65, 79, 81,

83, 85, 87, 89, 91, 93, 94, 95, 96, 97, 99, 108, or 110 or an enzymatically active fragment thereof.

36. An expression cassette comprising a polynucleotide encoding a polypeptide having the amino acid sequence of any one of SEQ ID NO: 10, 13, 14, 15, 16, 33, 35, or 51 or an active fragment thereof having α-amylase activity.

37. An expression cassette comprising a polynucleotide encoding a polypeptide having the amino acid sequence of any one of SEQ ID NO: 3, 24, or 34, or an active fragment thereof having pullulanase activity.

38. An expression cassette comprising a polynucleotide encoding a polypeptide having the amino acid sequence of any one of SEQ ID NO: 5, 26 or 27 or an active fragment thereof having α-glucosidase activity.

39. An expression cassette comprising a polynucleotide encoding a polypeptide having the amino acid sequence of any one of SEQ ID NO: 18, 20, 28, 29, 30, 38, 40, 42, or 44, or an active fragment thereof having glucose isomerase activity.

40. An expression cassette comprising a polynucleotide encoding a polypeptide having the amino acid sequence of SEQ ID NO:45, 47, or 49, or an active fragment thereof having glucoamylase activity.

41. A vector comprising the expression cassette of claim 16.

42. A vector comprising the expression cassette of any one of claims 30-40.

43. A cell containing the expression cassette of claim 16.

44. A cell containing the expression cassette of any one of claims 30-40.

45. The cell of claim 44, wherein the cell is selected from the group consisting of an *Agrobacterium*, a monocot cell, a dicot cell, a Liliopsida cell, a Panicoideae cell, a maize cell, and a cereal cell.

46. The cell of claim 45, wherein the cell is a maize cell or a rice cell.

47. The cell of claim 45, wherein the cell is selected from the group consisting of an *Agrobacterium*, a monocot cell, a dicot cell, a Liliopsida cell, a Panicoideae cell, a maize cell, and a cereal cell.

48. The cell of claim 47, wherein the cell is a maize cell.

49. A plant stably transformed with the vector of claim 41.

50. A plant stably transformed with the vector of claim 42.

51. A plant stably transformed with a vector comprising an α-amylase having an amino acid sequence of any of SEQ ID NO: 1, 10, 13, 14, 15, 16, 33, or 35, or encoded by a polynucleotide comprising any of SEQ ID NO: 2 or 9.

52. The plant of claim 51, wherein said α-amylase is hyperthermophilic.

53. A plant stably transformed with a vector comprising a pullulanase having an amino acid sequence of any of SEQ ID NO:24 or 34, or encoded by a polynucleotide comprising any of SEQ ID NO:4 or 25.

54. A plant stably transformed with a vector comprising an α-glucosidase having an amino acid sequence of any of SEQ ID NO:26 or 27, or encoded by a polynucleotide comprising SEQ ID NO:6.

55. The plant of claim 54, wherein said α-glucosidase is hyperthermophilic.

56. A plant stably transformed with a vector comprising an glucose isomerase having an amino acid sequence of any of SEQ ID NO:18, 20, 28, 29, 30, 38, 40, 42, pr 44, or encoded by a polynucleotide comprising any of SEQ ID NO:19, 21, 37, 39, 41, or 43.

57. The plant of claim 56, wherein said α-glucosidase is hyperthermophilic.

58. A plant stably transformed with a vector comprising a glucose amylase having an amino acid sequence of any of SEQ ID NO:45, 47, or 49, or encoded by a polynucleotide comprising any of SEQ ID NO:46, 48, 50, or 59.

59. The plant of claim 58, wherein said glucose amylase is hyperthermophilic.

60. Seed, fruit or grain from the plant of claim 49.

61. Seed, fruit or grain from the plant of claim 50.

62. Seed, fruit or grain from the plant of claim 51.

63. Seed, fruit or grain from the plant of claim 53.

64. Seed, fruit or grain from the plant of claim 54.

65. Seed, fruit or grain from the plant of claim 56.

66. Seed, fruit or grain from the plant of claim 58.

67. A transformed plant, the genome of which is augmented with a recombinant polynucleotide encoding at least one processing enzyme operably linked to a promoter sequence.

68. The plant of claim 67, wherein the plant is a monocot.

69. The plant of claim 68, wherein the monocot is maize or rice.

70. The plant of claim 67, wherein the plant is a dicot.

71. The plant of claim 67, wherein the plant is a cereal plant or a commercially grown plant.

72. The plant of claim 67, wherein the processing enzyme is selected from the group consisting of an α-amylase, glucoamylase, glucose isomerase, glucanase, β-amylase, α-glucosidase, isoamylase, pullulanase, neo-pullulanase, iso-pullulanase, amylopullulanase, cellulase, exo-1,4-β-cellobiohydrolase, exo-1,3-β-D-glucanase, β-glucosidase, endoglucanase, L-arabinase, α-arabinosidase, galactanase, galactosidase, mannanase, mannosidase, xylanase, xylosidase, protease, glucanase, esterase, phytase, and lipase.

73. The plant of claim 72, wherein the processing enzyme is a starch-processing enzyme selected from the group consisting of α-amylase, glucoamylase, glucose isomerase, β-amylase, α-glucosidase, isoamylase, pullulanase, neo-pullulanase, iso-pullulanase, and amylopullulanase.

74. The plant of claim 73, wherein the enzyme is selected from α-amylase, glucoamylase, glucose isomerase, glucose isomerase, α-glucosidase, and pullulanase.

75. The plant of claim 74, wherein the enzyme is hyperthermophilic.

76. The plant of claim 72, wherein the enzyme is a non-starch degrading enzyme selected from the group consisting of protease, glucanase, xylanase, cellulase, β-glucosidase, esterase, phytase, and lipase.

77. The plant of claim 76, wherein the enzyme is hyperthermophilic.

78. The plant of claim 67, wherein the enzyme accumulates in the vacuole, endoplasmic reticulum, chloroplast, starch granule, seed or cell wall of a plant.

79. The plant of claim 78, wherein the enzyme accumulates in the endoplasmic reticulum.

80. The plant of claim 78, wherein the enzyme accumulates in the starch granule.

81. The plant of claim 67, the genome of which is further augmented with a second recombinant polynucleotide comprising a non-hyperthermophilic enzyme.

82. A transformed plant, the genome of which is augmented with a recombinant polynucleotide encoding at least one processing enzyme selected from the group consisting of α-amylase, glucoamylase, glucose isomerase, α-glucosidase, and pullulanase, operably linked to a promoter sequence.

83. The transformed plant of claim 82, wherein the processing enzyme is hyperthermophilic.

84. The transformed plant of claim 82, wherein the plant is maize or rice.

85. A transformed maize plant, the genome of which is augmented with a recombinant polynucleotide encoding at least one processing enzyme selected from the group consisting of α-amylase, glucoamylase, glucose isomerase, α-glucosidase, and pullulanase, operably linked to a promoter sequence.

86. The transformed maize plant of claim 85, wherein the processing enzyme is hyperthermophilic.

87. A transformed plant, the genome of which is augmented with a recombinant polynucleotide having the SEQ ID NO: 2, 9, or 52, operably linked to a promoter and to a signal sequence.

88. A transformed plant, the genome of which is augmented with a recombinant polynucleotide having the SEQ ID NO: 4 or 25, operably linked to a promoter and to a signal sequence.

89. A transformed plant, the genome of which is augmented with a recombinant polynucleotide having the SEQ ID NO: 6, operably linked to a promoter and to a signal sequence.

90. A transformed plant, the genome of which is augmented with a recombinant polynucleotide having the SEQ ID NO: 19, 21, 37, 39, 41, or 43.

91. A transformed plant, the genome of which is augmented with a recombinant polynucleotide having the SEQ ID NO: 46, 48, 50, or 59.

92. A product of the transformed plant of claim 82.

93. A product of the transformed plant of claim 85.

94. A product of the transformed plant of any one of claims 87-91.

95. The product of claim 92, wherein the product is seed, fruit, or grain.

96. The product of claim 92, wherein the product is the processing enzyme, starch or sugar.

97. A plant obtained from the plant of claim 82.

98. A plant obtained from the plant of claim 85.

99. A plant obtained from the plant of any one of claims 87-91.

100. The plant of claim 97, which is a hybrid plant.

101. The plant of claim 98, which is a hybrid plant.

102. The plant of claim 99, which is a hybrid plant.

103. The plant of claim 97, which is a inbred plant.

104. The plant of claim 98, which is an inbred plant.

105. The plant of claim 99, which is an inbred plant.

106. A starch composition comprising at least one processing enzyme which is a protease, glucanase, phytase, lipase, xylanase, cellulase, β-glucosidase or esterase.

107. The starch composition of claim 106, wherein the enzyme is hyperthermophilic.

108. Grain comprising at least one processing enzyme, which is an α-amylase, pullulanase, α-glucosidase, glucoamylase, or glucose isomerase.

109. The grain of claim 108, wherein the enzyme is hyperthermophilic.

110. A method of preparing starch granules, comprising;

a) treating grain which comprises at least one non-starch processing enzyme under conditions which activate the at least one enzyme, yielding a mixture comprising starch granules and non-starch degradation products, wherein the grain is obtained from a transformed plant, the genome of

which is augmented with an expression cassette encoding the at least one enzyme; and

b) separating starch granules from the mixture.

111. The method of claim 110, wherein the enzyme is a protease, glucanase, phytase, lipase, xylanase, cellulase, β-glucosidase or esterase.

112. The method of claim 111, wherein the enzyme is hyperthermophilic.

113. The method of claim 110, wherein the grain is cracked grain.

114. The method of claim 110, wherein the grain is treated under low moisture conditions.

115. The method of claim 110, wherein the grain is treated under high moisture conditions.

116. The method of claim 110, wherein the grain is treated with sulfur dioxide.

117. The method of claim 110, further comprising separating non-starch products from the mixture.

118. Starch obtained by the method of claim 110.

119. Starch obtained by the method of claim 112.

120. Non-starch products obtained by the method of claim 110.

121. Non-starch products obtained by the method of claim 112.

122. A method to produce hypersweet corn comprising treating transformed corn or a part thereof, the genome of which is augmented with and expresses in the endosperm an expression cassette encoding at least one starch-degrading or starch-isomerizing enzyme, under conditions which activate the at least one enzyme so as to convert polysaccharides in the corn into sugar, yielding hypersweet corn.

123. The method of claim 122, wherein the expression cassette further comprises a promoter operably linked to the polynucleotide encoding the enzyme.

124. The method of claim 123, wherein the promoter is a constitutive promoter.

125. The method of claim 123, wherein the promoter is a seed-specific promoter.

126. The method of claim 123, wherein the promoter is an endosperm-specific promoter.

127. The method of claim 123, wherein the enzyme is a hyperthermophilic.

128. The method of claim 127, wherein the enzyme is α-amylase.

129. The method of claim 122, wherein the expression cassette further comprises a polynucleotide which encodes a signal sequence operably linked to the at least one enzyme.

130. The method of claim 129, wherein the signal sequence directs the hyperthermophilic enzyme to the apoplast.

131. The method of claim 129, wherein the signal sequence directs the hyperthermophilic enzyme to endoplasmic reticulum.

132. The method of claim 122, wherein the enzyme comprises any one of SEQ ID NO: 13, 14, 15, 16, 33, or 35.

133. A method of producing hypersweet corn comprising treating transformed corn or a part thereof, the genome of which is augmented with and expresses in the endosperm an expression cassette encoding an α-amylase, under conditions which activate the at least one enzyme so as to convert polysaccharides in the corn into sugar, yielding hypersweet corn.

134. The method of claim 133, wherein the enzyme is hyperthermophilic.

135. The method of claim 134, wherein the hyperthermophilic α-amylase comprises the amino acid sequence of any of SEQ ID NO: 10, 13, 14, 15, 16, 33, or 35, or an enzymatically active fragment thereof having α-amylase activity.

136. The method of claim 134, wherein the expression cassette comprises a polynucleotide selected from any of SEQ ID NO: 2, 9, or 52, a complement thereof, or a polynucleotide that hybridizes to any of SEQ ID NO: 2, 9, or 52 under low stringency hybridization conditions and encodes a polypeptide having α–amylase activity

137. A method to prepare a solution of hydrolyzed starch product comprising;

a) treating a plant part comprising starch granules and at least one processing enzyme under conditions which activate the at least one enzyme thereby processing the starch granules to form an aqueous solution comprising hydrolyzed starch product, wherein the plant part is obtained from a transformed plant, the genome of which is augmented with an expression cassette encoding the at least one starch processing enzyme; and

b) collecting the aqueous solution comprising the hydrolyzed starch product.

138. The method of claim 137, wherein the hydrolyzed starch product comprises a dextrin, maltooligosaccharide, sugar, and/or mixtures thereof.

139. The method of claim 137, wherein the enzyme is α-amylase, α-glucosidase, glucoamylase, pullulanase, amylopullulanase, glucose isomerase, β–amylase, isoamylase, neopullulanase, iso-pullulanase, or any combination thereof.

140. The method of claim 137, wherein the at least one processing enzyme is hyperthermophilic.

141. The method of claim 139, wherein the at least one processing enzyme is hyperthermophilic.

142. The method of claim 137, wherein the genome of the plant part is further augmented with an expression cassette encoding a non-hyperthermophilic starch processing enzyme.

143. The method of claim 142, wherein the non-hyperthermophilic starch processing enzyme is selected from the group consisting of amylase, glucoamylase, α-glucosidase, pullulanase, glucose isomerase, or a combination thereof.

144. The method of claim 137, wherein the at least one processing enzyme is expressed in the endosperm.

145. The method of claim 137, wherein the plant part is grain.

146. The method of claim 137, wherein the plant part is from corn, wheat, barley, rye, oat, sugar cane or rice.

147. The method of claim 137, wherein the at least one processing enzyme is operably linked to a promoter and to a signal sequence that targets the enzyme to the starch granule or the endoplasmic reticulum, or to the cell wall.

148. The method of claim 137, further comprising isolating the hydrolyzed starch product.

149. The method of claim 137, further comprising fermenting the hydrolyzed starch product.

150. A method of preparing hydrolyzed starch product comprising

a) treating a plant part comprising starch granules and at least one starch processing enzyme under conditions which activate the at least one enzyme thereby processing the starch granules to form an aqueous solution comprising a hydrolyzed starch product, wherein the plant part is obtained from a transformed plant, the genome of which is augmented with an expression cassette encoding at least one α-amylase; and

b) collecting the aqueous solution comprising hydrolyzed starch product.

151. The method of claim 150, wherein the α-amylase is hyperthermophilic.

152. The method of claim 151, wherein the hyperthermophilic α-amylase comprises the amino acid sequence of any of SEQ ID NO: 1, 10, 13, 14, 15, 16, 33, or 35, or an active fragment thereof having α-amylase activity.

153. The method of claim 151, wherein the expression cassette comprises a polynucleotide selected from any of SEQ ID NO: 2, 9, 46, or 52, a complement thereof, or a polynucleotide that hybridizes to any of SEQ ID NO: 2, 9, 46, or 52 under low stringency hybridization conditions and encodes a polypeptide having α-amylase activity.

154. The method of claim 150, wherein the genome of the transformed plant further comprises a polynucleotide encoding a non-thermophilic starch-processing enzyme.

155. The method of claim 150 further comprising treating the plant part with a non-hyperthermophilic starch-processing enzyme.

156. A transformed plant part comprising at least one starch-processing enzyme present in the cells of the plant, wherein the plant part is obtained from a transformed plant, the genome of which is augmented with an expression cassette encoding the at least one starch processing enzyme.

157. The plant part of claim 156, wherein the enzyme is a starch-processing enzyme selected from the group consisting of α-amylase, glucoamylase, glucose isomerase, β-amylase, α-glucosidase, isoamylase, pullulanase, neo-pullulanase, iso-pullulanase, and amylopullulanase.

158. The plant part of clam 156, wherein the enzyme is hyperthermophilic.

159. The plant part of claim 156, wherein the plant is corn.

160. A transformed plant part comprising at least one non-starch processing enzyme present in the cell wall or the cells of the plant, wherein the plant part is obtained

from a transformed plant, the genome of which is augmented with an expression cassette encoding the at least one non-starch processing enzyme or at least one non-starch polysaccharide processing enzyme.

161. The plant part of claim 160, wherein the enzyme is hyperthermophilic.

162. The plant part of claim 160, wherein the non-starch processing enzyme is selected from the group consisting of protease, glucanase, xylanase, esterase, phytase, cellulase, β-glucosidase or lipase.

163. The plant part of claim 156 or 160, which is an ear, seed, fruit, grain, stover, chaff, or bagasse.

164. A transformed plant part comprising an α-amylase having an amino acid sequence of any of SEQ ID NO: 1, 10, 13, 14, 15, 16, 33, or 35, or encoded by a polynucleotide comprising any of SEQ ID NO: 2, 9, 46, or 52.

165. A transformed plant part comprising an α-glucosidase having an amino acid sequence of any of SEQ ID NO: 5, 26 or 27, or encoded by a polynucleotide comprising SEQ ID NO:6.

166. A transformed plant part comprising a glucose isomerase having the amino acid sequence of any one of SEQ ID NO: 28, 29, 30, 38, 40, 42, or 44, or encoded by a polynucleotide comprising any one of SEQ ID NO: 19, 21, 37, 39, 41, or 43.

167. A transformed plant part comprising a glucoamylase having the amino acid sequence of SEQ ID NO:45 or SEQ ID NO:47, or SEQ ID NO:49, or encoded by a polynucleotide comprising any of SEQ ID NO: 46, 48, 50, or 59.

168. A transformed plant part comprising a pullulanase encoded by a polynucleotide comprising any of SEQ ID NO: 4 or 25.

169. A method of converting starch in the transformed plant part of claim 156 comprising activating the starch processing enzyme contained therein.

170. A method of converting starch to starch-derived product in the transformed plant part of any one of claims 164-168 comprising activating the enzyme contained therein.

171. Starch, dextrin, maltooligosaccharide or sugar produced according to the method of claim 169.

172. Starch, dextrin, maltooligosaccharide or sugar produced according to the method of claim 170.

173. A method of using a transformed plant part comprising at least one non-starch processing enzyme in the cell wall or the cell of the plant part, comprising:

a) treating a transformed plant part comprising at least one non-starch polysaccharide processing enzyme under conditions so as to activate the at least one enzyme thereby digesting non-starch polysaccharide to form an aqueous solution comprising oligosaccharide and/or sugars, wherein the plant part is obtained from a transformed plant, the genome of which is augmented with an expression cassette encoding the at least one non-starch polysaccharide processing enzyme; and

b) collecting the aqueous solution comprising the oligosaccharides and/or sugars.

174. The method of claim 173, wherein the non-starch polysaccharide processing enzyme is a protease, glucanase, phytase, lipase, xylanase, cellulase, β-glucosidase or esterase.

175. A method of using transformed seeds comprising at least one processing enzyme, comprising;

a) treating transformed seeds which comprise at least one protease or lipase under conditions so as the activate the at least one enzyme yielding an aqueous mixture comprising amino acids and fatty acids, wherein the seed is obtained from a transformed plant, the genome of which is augmented with an expression cassette encoding the at least one enzyme; and

b) collecting the aqueous mixture.

176. The method of claim 175, wherein the amino acids, fatty acids or both are isolated.

177. The method of claim 175, wherein the at least one protease or lipase is hyperthermophilic.

178. A method to prepare ethanol comprising:

a) treating a plant part comprising at least one polysaccharide processing enzyme under conditions to activate the at least one enzyme thereby digesting polysaccharide to form oligosaccharide or fermentable sugar, wherein the plant part is obtained from a transformed plant, the genome of which is augmented with an expression cassette encoding the at least one polysaccharide processing enzyme; and

b) incubating the fermentable sugar under conditions that promote the conversion of the fermentable sugar or oligosaccharide into ethanol.

179. The method of claim 178, wherein the plant part is a grain, fruit, seed, stalks, wood, vegetable or root.

180. The method of claim 178, wherein the plant part is obtained from a plant selected from the group consisting of oats, barley, wheat, berry, grapes, rye, corn, rice, potato, sugar beet, sugar cane, pineapple, grasses and trees.

181. The method of claim 178, wherein the polysaccharide processing enzyme is α-amylase, glucoamylase, α-glucosidase, glucose isomerase, pullulanase, or a combination thereof.

182. The method of claim 178, wherein the polysaccharide processing enzyme is hyperthermophilic.

183. The method of claim 178, wherein the polysaccharide processing enzyme is mesophilic.

184. The method of claim 181, wherein the polysaccharide processing enzyme is hyperthermophilic.

185. A method to prepare ethanol comprising:

a) treating a plant part comprising at least one enzyme selected from the group consisting of α-amylase, glucoamylase, α-glucosidase, glucose isomerase, or pullulanase, or a combination thereof, with heat for an amount of time and under conditions to activate the at least one enzyme thereby digesting polysaccharide to form fermentable sugar, wherein the plant part is obtained from a transformed plant, the genome of which is augmented with an expression cassette encoding the at least one enzyme; and

b) incubating the fermentable sugar under conditions that promote the conversion of the fermentable sugar into ethanol.

186. The method of claim 185, wherein the at least one enzyme is hyperthermophilic.

187. The method of claim 185, wherein the at least one enzyme is mesophilic.

188. The method of claim185, wherein the α-amylase has the amino acid sequence of any of SEQ ID NO: 1, 10, 13, 14, 15, 16, 33, or 35, or is encoded by a polynucleotide comprising any of SEQ ID NO: 2 or 9.

189. The method of claim185, wherein the α-glucosidase has the amino acid sequence of any of SEQ ID NO: 5, 26 or 27, or is encoded by a polynucleotide comprising SEQ ID NO:6.

190. The method of claim 185, wherein the glucose isomerase has the amino acid sequence of any one of SEQ ID NO: 28, 29, 30, 38, 40, 42, or 44, or is encoded by a polynucleotide comprising any one of SEQ ID NO: 19, 21, 37, 39, 41, or 43.

191. The method of claim 185, wherein the glucoamylase has the amino acid sequence of SEQ ID NO:45, or is encoded by a polynucleotide comprising any of SEQ ID NO:46. 48, or 50.

192. The method of claim 185, wherein the pullulanase has the amino acid sequence of SEQ ID NO: 24 or 34, or is encoded by a polynucleotide comprising any of SEQ ID NO:4 or 25.

193. A method to prepare ethanol comprising:

a) treating a plant part comprising at least one non-starch processing enzyme under conditions to activate the at least one enzyme thereby digesting non-starch polysaccharide to oligosaccharide and fermentable sugar, wherein the plant part is obtained from a transformed plant, the genome of which is augmented with an expression cassette encoding the at least one enzyme; and

b) incubating the fermentable sugar under conditions that promote the conversion of the fermentable sugar into ethanol.

194. The method of claim 193, wherein the non-starch processing enzyme is a protease, glucanase, phytase, lipase, xylanase, cellulase, β-glucosidase or esterase.

195. A method to prepare ethanol comprising:

a) treating a plant part comprising at least one enzyme selected from the group consisting of α-amylase, glucoamylase, α-glucosidase, glucose isomerase, or pullulanase, or a combination thereof, under conditions to activate the at least one enzyme thereby digesting polysaccharide to form fermentable sugar, wherein the plant part is obtained from a transformed plant, the genome of which is augmented with an expression cassette encoding the at least one enzyme; and

b) incubating the fermentable sugar under conditions that promote the conversion of the fermentable sugar into ethanol.

196. The method of claim 195, wherein the at least one enzyme is hyperthermophilic.

197. A method to produce a sweetened farinaceous food product without adding additional sweetener comprising:

a) treating a plant part comprising at least one starch processing enzyme under conditions which activate the at least one enzyme, thereby processing starch granules in the plant part to sugars so as to form a sweetened product, wherein the plant part is obtained from a transformed plant, the genome of which is augmented with an expression cassette encoding the at least one enzyme; and

b) processing the sweetened product into a farinaceous food product.

198. The method of claim 197, wherein the farinaceous food product is formed from the sweetened product and water.

199. The method of claim 197, wherein the farinaceous food product contains malt, flavorings, vitamins, minerals, coloring agents or any combination thereof.

200. The method of claim 197, wherein the at least one enzyme is hyperthermophilic.

201. The method of claim 197, wherein the enzyme is α-amylase, α-glucosidase, glucoamylase, pullulanase, glucose isomerase, or any combination thereof.

202. The method of claim 197, wherein the plant is selected from the group consisting of soybean, rye, oats, barley, wheat, corn, rice and sugar cane.

203. The method of claim 197, wherein the farinaceous food product is a cereal food.

204. The method of claim 197, wherein the farinaceous food product is a breakfast food.

205. The method of claim 197, wherein the farinaceous food product is a ready to eat food.

206. The method of claim 197, wherein the farinaceous food product is a baked food.

207. The method of claim 197, wherein the processing is baking, boiling, heating, steaming, electrical discharge or any combination thereof.

208. A method to sweeten a starch-containing product without adding sweetener comprising:

a) treating starch comprising at least one starch processing enzyme under conditions to activate the at least one enzyme thereby digesting the starch to form a sugar to form sweetened starch, wherein the starch is obtained from a transformed plant, the genome of which is augmented with an expression cassette encoding the at least one enzyme; and

b) adding the sweetened starch to a product to produce a sweetened starch containing product.

209. The method of claim 208, wherein the transformed plant is selected from the group consisting of corn, soybean, rye, oats, barley, wheat, rice and sugar cane.

210. The method of claim 208, wherein the at least one enzyme is hyperthermophilic.

211. The method of claim 208, wherein the at least one enzyme is α-amylase, α-glucosidase, glucoamylase, pullulanase, glucose isomerase, or any combination thereof.

212. A farinaceous food product obtained by the method of claim 197.

213. A sweetened starch containing product obtained by the method of claim 208.

214. A method to sweeten a polysaccharide-containing fruit or vegetable comprising treating a fruit or vegetable comprising at least one polysaccharide processing enzyme under conditions which activate the at least one enzyme, thereby processing the polysaccharide in the fruit or vegetable to form sugar, yielding a sweetened fruit or vegetable, wherein the fruit or vegetable is obtained from a transformed plant, the genome of which is augmented with an expression cassette encoding the at least one polysaccharide processing enzyme.

215. The method of claim 214, wherein the fruit or vegetable is selected from the group consisting of potato, tomato, banana, squash, peas, and beans.

216. The method of claim 214, wherein the at least one enzyme is hyperthermophilic.

217. The method of claim 214, wherein the enzyme is α-amylase, α-glucosidase, glucoamylase, pullulanase, glucose isomerase, or any combination thereof.

218. A method of preparing an aqueous solution comprising sugar comprising treating starch granules obtained from the plant part of claim 156 under conditions which activate the at least one enzyme, thereby yielding an aqueous solution comprising sugar.

219. A method of preparing starch derived products from grain that does not involve wet or dry milling grain prior to recovery of starch-derived products comprising;

a) treating a plant part comprising starch granules and at least one starch processing enzyme under conditions which activate the at least one enzyme thereby processing the starch granules to form an aqueous solution comprising dextrins or sugars, wherein the plant part is obtained from a transformed plant, the genome of which is augmented with an expression cassette encoding the at least one starch processing enzyme; and

b) collecting the aqueous solution comprising the starch derived product.

220. The method of claim 219, wherein the at least one starch processing enzyme is hyperthermophilic.

221. A method of isolating an α-amylase, glucoamylase, glucose isomerase, α-glucosidase, and pullulanase comprising culturing the transformed plant of claim 82 and isolating the α-amylase, glucoamylase, glucose isomerase, α-glucosidase, and pullulanase therefrom.

222. The method of claim 221, wherein the α-amylase, glucoamylase, glucose isomerase, α-glucosidase, and pullulanase is hyperthermophilic.

223. A method of preparing maltodextrin comprising:

a.) mixing transgenic grain with water;

b.) heating said mixture

c.) separating solid from the dextrin syrup generated in (b) and

d.) collecting the maltodextrin.

224. The method of claim 223, wherein the transgenic grain comprises at least one starch processing enzyme.

225. The method of claim 224, wherein the starch processing enzyme is α-amylase, glucoamylase, α-glucosidase, and glucose isomerase.

226. The method of claim 225, wherein at least one of the starch processing enzymes is hyperthermophilic.

227. Maltodextrin produced by the method of any one of claims 223-226.

228. A maltodextrin composition produced by the method of any one of claim 223-226.

229. A method of preparing dextrins, or sugars from grain that does not involve mechanical disruption of the grain prior to recovery of starch-derived comprising:

a) treating a plant part comprising starch granules and at least one starch processing enzyme under conditions which activate the at least one enzyme thereby processing the starch granules to form an aqueous solution comprising dextrins or sugars, wherein the plant part is obtained from a transformed plant, the genome of which is augmented with an expression cassette encoding the at least one processing enzyme; and

b) collecting the aqueous solution comprising sugar and/or dextrins.

230. The method of claim 229, wherein the starch processing enzyme is α-amylase, glucoamylase, α-glucosidase, and glucose isomerase.

231. A method of producing fermentable sugar comprising:

a) treating a plant part comprising starch granules and at least one starch processing enzyme under conditions which activate the at least one

enzyme thereby processing the starch granules to form an aqueous solution comprising dextrins or sugars, wherein the plant part is obtained from a transformed plant, the genome of which is augmented with an expression cassette encoding the at least one processing enzyme; and

c) collecting the aqueous solution comprising the fermentable sugar.

232. The method of claim 231, wherein the starch processing enzyme is α-amylase, glucoamylase, α-glucosidase, and glucose isomerase.

233. A maize plant stably transformed with a vector comprising a hyperthermophlic α-amylase.

234. A maize plant stably transformed with a vector comprising a polynucleotide sequence that encodes α-amylase that is greater than 60% identical to SEQ ID NO: 1 or SEQ ID NO: 51.